UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/596,679	03/12/2007	Dimitris Papadimitriou	P15013-US1	9389

27045   7590   08/19/2009

ERICSSON INC.
6300 LEGACY DRIVE
M/S EVR 1-C-11
PLANO, TX 75024

EXAMINER
PITT, BRYAN W

ART UNIT	PAPER NUMBER
2617	

MAIL DATE	DELIVERY MODE
08/19/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/596,679	PAPADIMITRIOU ET AL.
	Examiner	Art Unit
	Bryan Pitt	2617

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 March 2007*.
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-44* is/are pending in the application.
    4a) Of the above claim(s) *1-22* is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) *23-44* is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☒ The drawing(s) filed on *21 June 2006* is/are: a)☐ accepted or b)☒ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☒ All   b)☐ Some * c)☐ None of:
      1.☐ Certified copies of the priority documents have been received.
      2.☐ Certified copies of the priority documents have been received in Application No. _____.
      3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *21 June 2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____ .

DETAILED ACTION

Drawings

1.   The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5)

because they do not include the following reference sign(s) mentioned in the

description: Fig. 3 is lacking a label for step 330. Corrected drawing sheets in

compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid

abandonment of the application. Any amended replacement drawing sheet should

include all of the figures appearing on the immediate prior version of the sheet, even if

only one figure is being amended. Each drawing sheet submitted after the filing date of

an application must be labeled in the top margin as either "Replacement Sheet" or "New

Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner,

the applicant will be notified and informed of any required corrective action in the next

Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

2.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3.   Claims 23, 29-33, 38, 40-44 are rejected under 35 U.S.C. 102(b) as being

anticipated by US 6,275,708 to Lahtinen.

        Regarding claim 23, Lahtinen teaches a method of controlling paging flow in a

network for cellular communications, comprising the steps of

at a control node, receiving a request for paging a mobile station (i.e. Lahtinen teaches a mobile switching center (MSC, i.e. a control node) having to send a call, therefore receiving a request for paging a mobile station; Col. 4, lines 11-15);

determining a location area in which the paging shall be performed (i.e. the MSC limits the number of calls to be initiated for each location area, therefore determining a location area in which paging shall be performed; see Col. 5, lines 1-8, Col. 2, lines 33-44);

checking whether the number of paging transactions which are ongoing for the location area is lower than at least one maximum number of ongoing paging transactions allowed for the location area (i.e. the MSC checks the number of calls to be initiated (paging transactions) against a maximum value; Col. 2, lines 33-44, Col. 5, 1-8); and

after a determination that the number of ongoing paging transactions is lower than the maximum number, updating the number of ongoing paging transactions for the location area and processing the paging request (i.e. new calls are initiated on request until the number of counted calls is equivalent to a maximum allowed number of calls; Col. 2, lines 33-44. The MSC checks to see if the call counter has reached the threshold value and if not, allows the call and deducts from the value of the call counter (updates the number); Col. 4, lines 3-16).

Regarding claim 29, Lahtinen teaches method according to claim 23, wherein the updating step further comprises the step of incrementing at least one counter indicative of the number of ongoing transactions which is comprised in the control node when a

paging request is accepted for processing by the control node, and the step of decrementing the counter when a paging response has been returned by the mobile station (i.e. Lahtinen teaches increasing the call counter value in the MSC when a call is to be initiated (i.e. a paging request is accepted) and decreasing the call counter when a timer expires, indicating that the mobile station has released the resource; Col. 4, lines 47-59).

Regarding claim 30, Lahtinen teaches the method of claim 23, wherein the paging transactions are of at least one kind selected from the group consisting of Call Control transactions, Supplementary Services transactions, Short Message Service transactions and Location Services transactions (i.e. Lahtinen teaches that the calls to be initiated (paging requests) may be due to incoming voice calls (i.e. call control); Col. 2, lines 5-9).

Regarding claim 31, Lahtinen teaches the method of claim 30, wherein a respective maximum number which is allowed for the location area is defined for paging transactions of each of the kind comprising Call Control transactions, Supplementary Services transactions, Short Message Service transactions and Location Services transactions, respectively, the checking step being performed for each kind of transaction (i.e. Lahtinen teaches limiting the number of calls to be initiated (i.e. paging requests) to a predetermined value (maximum number) and applies this to incoming voice calls; Col. 3, lines 16-24).

Regarding claim 32, Lahtinen teaches the method of claim 23, wherein the control node is a Mobile services Switching Center or a serving General Packet Radio

Services support node (i.e. Lahtinen teaches a mobile services switching center (MSC);

Col. 3, lines 16-24).

Regarding claim 33, Lahtinen teaches a telecommunications system for

controlling a paging flow in a network for cellular communications having at least one

control node associated with a location area (i.e. an MSC with location areas; Col. 5,

lines 1-16) serving a mobile station to be paged, the control node having means for

receiving paging requests (i.e. the MSC it connected to base station subsystems, other

MSCs, and the PSTN, and receives calls to be sent to mobile stations, therefore means

for receiving paging requests; Col. 3, line 48 to Col. 4 line 16), the system comprising:

memory means for storing at least one maximum number of ongoing paging

transactions allowed for the location area and for storing the number of ongoing paging

transactions (i.e. Lahtinen discloses call counters that store the number of calls to be

initialized and a counter threshold value register that stores the maximum number of

allowed calls, therefore memory means; Col. 3, lines 24-47, Col. 5 lines 9-16);

comparing means for checking whether the number of ongoing paging

transactions is lower than the at least one maximum number (i.e. Lahtinen discloses a

comparator for determining whether the call counter has met the counter threshold

value, therefore comparing means; Col. 3, lines 40-47, Col. 5, lines 9-16); and

paging means for paging the mobile station in response to an outcome of the

comparing means (i.e. the MSC initiates calls (pages mobile stations) via base station

controllers until the number of calls to be initiated reaches the threshold value, therefore

paging means; Col. 2, lines 33-44).

Regarding claim 38, Lahtinen teaches the telecommunications system of claim 33, wherein the control node comprises at least one counter indicative of the number of ongoing transactions, the counter being incremented when a paging request is accepted for processing by the control node and being decremented when a paging response has been returned by the mobile station.

Regarding claim 40, Lahtinen teaches the telecommunications system of claim 33, wherein the memory means are comprised in any one of the Mobile Services Switching Center, a Visitor Location Register connected to the Mobile Services Switching Center, a Base Station Controller connected to the Mobile Services Switching Center and serving the location area (i.e. Lahtinen teaches the registers and counters may be located in the mobile services switching center (MSC); Fig. 2, Col. 3, line 48 to Col. 4 line 2, Col 5, lines 9-16).

Regarding claim 41, Lahtinen teaches the telecommunications system of claim 33 wherein the comparing means are comprised in the control node (i.e. Lahtinen teaches the call control computer is located in the MSC; Fig. 2, Col. 3, line 48 to Col. 4, line 2, Col. 5, lines 9-16).

Regarding claim 42, Lahtinen teaches the telecommunications system of claim 33 wherein the paging means further comprises a Mobile Services Switching Center and a Base Station Controller serving the location area (i.e. Lahtinen teaches a MSC and a base station controller connecting a mobile station to a network switch; Fig. 1, Col. 3, line 48 to Col. 4, line 2).

Regarding claim 43, Lahtinen teaches the telecommunications system of claim 33, wherein the number of ongoing paging transactions is the overall number of ongoing transactions, regardless of the kind of transaction (i.e. Lahtinen teaches limiting calls to be initiated (paging requests) regardless of whether they are incoming or outgoing (i.e. kind of transaction), therefore an overall number; Col. 3, lines 16-24).

Regarding claim 44, Lahtinen teaches the telecommunications system of claim 33, wherein the control node is a mobile services switching center or a serving general packet radio services support node (i.e. Lahtinen teaches a MSC; Col. 3, lines 40-47).

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5.   Claims 24 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lahtinen in view of GB 2350918 to Joensuu et al. and US 2002/0171581 to Sheynblat et al.

Regarding claim 24, Lahtinen teaches the method of claim 23, but does not specifically teach further comprising the step of after a determination that the number of ongoing paging transactions is higher than or equal to the maximum number, checking whether the paging request derives from a Location Services request. However, at the time the invention was made the preceding limitation was known in the art of communications.

Joensuu teaches a paging system in a mobile communications network where the priority levels of incoming alerts (paging requests) are identified when the volume of incoming alerts (i.e. paging requests) is high and those alerts with a high priority level are broadcast (processed); page 7, second paragraph. Priority levels may be based on the type of incoming alert or the party's identity, so that critical alerts (paging requests) are not discarded; see page 8, first and second paragraphs. Therefore it would have been obvious to one skilled in the art to modify the paging control system of Lahtinen with the priority levels of Joensuu in order to prevent discarding critical alerts. However, the combination of Lahtinen and Joensuu does not specifically teach that the type of request checked for is a Location services request.

Sheynblat teaches giving location service requests for 911 (emergency) calls highest priority so that they can be processed as quickly as possible; paragraph 0067. Thus one skilled in the art would realize that the combination of Sheynblat with Lahtinen and Joensuu would teach checking for paging requests from emergency response location services and therefore it would be obvious to one of ordinary skill in the art at the time the invention was made to modify the paging control system of Lahtinen and Joensuu to give high priority to location service requests from emergency response sources as taught by Sheynblat because this would allows the emergency response requests to be processed as quickly as possible.

Regarding claim 34, Lahtinen teaches the telecommunications system of claim 33, but does not specifically teach the system further comprising a Location Services Request determining means for determining whether a paging request received by the

control node derives from a Location Services request. However, at the time the invention was made the preceding limitation was known in the art of communications.

Joensuu teaches a paging system in a mobile communications network where the priority levels of incoming alerts (paging requests) are identified when the volume of incoming alerts (i.e. paging requests) is high and those alerts with a high priority level are broadcast (processed); page 7, second paragraph. Priority levels may be based on the type of incoming alert or the party's identity, so that critical alerts (paging requests) are not discarded; see page 8, first and second paragraphs. Therefore it would have been obvious to one skilled in the art to modify the paging control system of Lahtinen with the priority levels of Joensuu in order to prevent discarding critical alerts. However, the combination of Lahtinen and Joensuu does not specifically teach that the type of request checked for is a Location services request.

Sheynblat teaches giving location service requests for 911 (emergency) calls highest priority so that they can be processed as quickly as possible; paragraph 0067. Thus one skilled in the art would realize that the combination of Sheynblat with Lahtinen and Joensuu would teach a means for checking whether paging requests are from emergency response location services and therefore it would be obvious to one of ordinary skill in the art at the time the invention was made to modify the paging control system of Lahtinen and Joensuu to give high priority to location service requests from emergency response sources as taught by Sheynblat because this would allows the emergency response requests to be processed as quickly as possible.

6.   Claims 25-28 and 35-37 are rejected under 35 U.S.C. 103(a) as being

unpatentable over the combination of Lahtinen, Joensuu, and Sheynblat as applied to

claims 24 and 34 above, and further in view of US 2006/0128395 to Muhonen.

Regarding claim 25, the combination of Lahtinen, Joensuu, and Sheynblat

teaches the method of claim 24, but does not specifically teach the method further

comprising the step of checking whether the Location Services request is a request for

last known location of the mobile station. However, at the time the invention was made

the preceding limitation was known in the art of communications.

Muhonen teaches a method of providing location information in a mobile

communication system where requests for the current location (i.e. the last known) of a

mobile station are answered by returning the location information stored in the VLR

provided that this stored information is "fresh" enough in order to prevent unnecessary

paging; paragraphs 0008, 0022, Fig. 2. Therefore it would have been obvious to one of

ordinary skill in the art at the time of invention to modify the paging control system of

Lahtinen, Joensuu, and Sheynblat by checking for whether the location services request

is a request for the current location of a mobile station as taught by Muhonen in order to

prevent unnecessary paging.

Regarding claim 26, the combination of Lahtinen, Joensuu, Sheynblat, and

Muhonen teaches the method of claim 25, further comprising the step of checking

whether the Location Service request comes from an Emergency Center or a Law

Enforcement Agency (i.e. Joensuu teaches prioritizing incoming alerts (paging requests)

by checking the requesting party's identity; Joensuu page 8, first and second

paragraphs. Sheynblat teaches giving location requests from 911 calls (i.e. from an

emergency center) highest priority; Sheynblat paragraph 0067).

Regarding claim 27, the combination of Lahtinen, Joensuu, Sheynblat, and

Muhonen teaches the method of claim 26, further comprising the step of, after a

determination that the Location Services request comes from an Emergency Center or a

Law Enforcement Agency, serving the paging request with priority (i.e. Joensuu teaches

prioritizing incoming alerts (paging requests) by checking the requesting party's identity;

Joensuu page 8, first and second paragraphs. Sheynblat teaches giving location

requests from 911 calls (i.e. from an emergency center) highest priority; Sheynblat

paragraph 0067).

Regarding claim 28, the combination of Lahtinen, Joensuu, Sheynblat, and

Muhonen teaches the method of claim 25, further comprising the step of retrieving

information on the last known location from a Visitor Location Register (i.e. Muhonen

teaches returning the location information stored in the VLR provided that this stored

information is "fresh" enough; paragraphs 0008, 0022, Fig. 2).

Regarding claim 35, the combination of Lahtinen, Joensuu, and Sheynblat

teaches the telecommunications system of claim 34, wherein the Location Services

Request determining means are set so as to check whether the Location Services

request is a request for last known location of the mobile station. However, at the time

of the invention the preceding limitation was known in the art of communications.

Muhonen teaches a method of providing location information in a mobile

communication system where requests for the current location (i.e. the last known) of a

mobile station are answered by returning the location information stored in the VLR

provided that this stored information is "fresh" enough in order to prevent unnecessary

paging; paragraphs 0008, 0022, Fig. 2. Therefore it would have been obvious to one of

ordinary skill in the art at the time invention was made to modify the paging control

system of Lahtinen, Joensuu, and Sheynblat by checking for whether the location

services request is a request for the current location of a mobile station as taught by

Muhonen in order to prevent unnecessary paging.

Regarding claim 36, the combination of Lahtinen, Joensuu, and Sheynblat

teaches the telecommunications system of claim 34, wherein the Location Services

Request determining means are set so as to check whether the Location Services

request comes from an Emergency Center or a Law Enforcement Agency (i.e. Joensuu

teaches prioritizing incoming alerts (paging requests) by checking the requesting party's

identity; Joensuu page 8, first and second paragraphs. Sheynblat teaches giving

location requests from 911 calls (i.e. from an emergency center) highest priority;

Sheynblat paragraph 0067).

Regarding claim 37, the combination of Lahtinen, Joensuu, and Sheynblat

teaches the telecommunications system of claim 36, wherein the control nodes

comprises buffer means for temporarily storing the paging request if the Location

request is a request coming from an Emergency Center or from a Law Enforcement

Agency, the paging means being set so as to serve the paging request with priority (i.e.

Joensuu teaches prioritizing incoming alerts (paging requests) by checking the

requesting party's identity; Joensuu page 8, first and second paragraphs. Sheynblat

teaches giving location requests from 911 calls (i.e. from an emergency center) highest

priority; Sheynblat paragraph 0067).

7.   Claim 39 is rejected under 35 U.S.C. 103(a) as being unpatentable over

Lahtinen.

Regarding claim 39, Lahtinen teaches the telecommunications system of claim

33, wherein the memory means comprise stored the maximum number of allowed

ongoing paging Call Control transactions, the comparing means being set so as the

checking is performed for each of the Call Control transactions (i.e. Lahtinen teaches

setting a maximum number of calls to be initiated (paging requests) in a location area

and that the maximum number can be set separately for each location area in

accordance with performance, Col. 5, lines 1-8).

Lahtinen does not specifically teach respective maximum numbers indicative of

the maximum number of allowed ongoing paging Supplementary Services transactions,

Short Message Service transactions, and Location Service transactions, respectively, or

that the checking is performed for each of the Supplementary Services transactions,

Short Message Service transactions and Location Service transactions, respectively.

However, at the time the invention was made the preceding limitation was known in the

art of communications.

The claimed invention improves upon the system of Lahtinen by establishing a

maximum number of ongoing paging requests for different categories of ongoing paging

requests (i.e. from call control, supplementary services, short message services, and

location services) within a location area and checking that the amount of paging

requests for each category of paging requests does not exceed the maximum number

for that category. The claimed invention uses counters to track the number of ongoing

paging requests and comparators to ensure that the maximum number of ongoing

paging requests is not reached, just as Lahtinen teaches. The claimed invention uses a

known technique of adding additional counters for more detailed tracking of paging

requests (Lahtinen teaches adding additional counters for tracking paging requests in

each location area to achieve more detailed tracking) in order to solve the problem of

how to track the amount of ongoing paging requests for each category of paging

request. Previously one skilled in the art would need to set up a separate system as

taught by Lahtinen for each category of paging request in order to track the amount of

ongoing paging requests for each category of paging request. Adding additional

counters to track the number of ongoing paging requests for each category of paging

request solves the problem by effectively creating a single system that separately tracks

the number of ongoing paging requests for different types of paging requests. That is to

say, the claimed invention combined multiple iterations of the system taught by Lahtinen

into a single system. The basic technique of adding additional counters to track

different categories of paging requests yields no more than the predictable outcome that

one of ordinary skill in the art would have expected to achieve using this known

technique. Therefore it would have been obvious to one of ordinary skill in the art at the

time of invention to modify the paging load limiting system of Lahtinen so as to include

memory for storing the maximum number of ongoing paging requests for various types

of paging requests and checking for each type of paging request because this would yield predictable results.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bryan Pitt whose telephone number is (571) 270-7466. The examiner can normally be reached on Monday - Friday 8:30 am - 5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, George Eng can be reached on (571) 272-7495. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/George Eng/
Supervisory Patent Examiner, Art Unit 2617

/B. P./
Examiner, Art Unit 2617